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CALIFORNIA COAST NEARSHORE PROCESSES STUDY
ERTS-A EXPERIMENT #088

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(E72-10316) CALIFORNIA COAST NEARSHORE
PROCESSES STUDY Progress Report, 1 Sep.
- 31 Oct. 1972 D.M. Pirie (Corps of
Engineers, San Francisco, Calif.)
31 Oct. 1972 21 p

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October 31, 1972

Type I Progress Report for Period September 1 to October 31, 1972

Prepared for

GODDARD SPACE FLIGHT CENTER
Greenbelt, Maryland 20771

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16. Abstract This Type I report contains a resume of the accomplishments of the California Coast Nearshore Processes Study for the period 1 September thru 31 October 1972. Due to delays in receipt of precision ERTS imagery, little analysis of data has been accomplished. However, ground truth teams, underflight test cells and flightlines, and experimental procedures have been established. Ground truth data have been obtained and are available for the coast of California and the first underflight is scheduled for December 1972.			
17. Key Words (Selected by Author(s)) Coastal Processes Coastal Currents Sediment Transport		18. Distribution Statement	
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PROGRESS REPORT TYPE I, NO. I,
CALIFORNIA COAST NEARSHORE
PROCESSES STUDY

1. OBJECTIVES OF STUDY

Multiple elements under the broad topic of nearshore processes will be studied with airborne and spaceborne sensor data coincident with sea truth. These elements include (1) nearshore currents, (2) estuarine flushing, (3) season river discharges, and (4) nearshore sediment dispersion. These processes will be studied primarily along the central and southern California coast. Sophisticated data processing techniques will be utilized to obtain the maximum information from available data, and to provide correlation and comparison when possible.

2. WORK PERFORMED DURING REPORTING PERIOD

Based on bulk imagery received, four test cells were established within the 088 sites. These cells include offshore San Francisco, Monterey Bay, Santa Barbara Channel and San Pedro Channel. Ground truth for the coastal zone for one flight (Inclosure 1) is presented as an example of types of data obtained. In addition to this data, 5,000 and 10,000 foot aircraft visible and thermal data are available for analysis, but are awaiting precision photographic imagery of the ERTS-1 overflight. Two aircraft flights for the December ERTS pass have been planned with coordination between the Corps of Engineers, NASA/Houston, North American Rockwell Corporation and the various ground truth teams.

3. SCHEDULE

The only problem affecting the schedule is the delay of precision imagery required for processing and analysis.

4. WORK PROGRESS

Work progress has been hampered by lack of adequate imagery and has forced the investigators to transfer the primary analytical functions from photo manipulation to a combination of photo and digital tape systems using algebraic functioning.

5. RELIABILITY

No input at this time.

6. FUNDS

As of the time of this report, the scheduled funding for this study is adequate to complete the tasks required.

7. PERSONNEL

There have been no significant changes in personnel involved in this study. The primary personnel remain:

Principal Investigator - Douglas M. Pirie
Co-Investigators - David D. Steller and
Orville T. Magoon

8. WORK NEXT PERIOD

The investigators have two aircraft underflights planned for the next reporting period (1 November thru 31 December 1972). In addition to these flights and associated ground truth collection, tape and photo analysis will be performed on imagery provided by Goddard.

9. OTHER

ERTS Image Descriptor Form is attached as Inclosure 2.

CALIFORNIA COAST NEARSHORE
PROCESSES STUDY

PROGRESS REPORT TYPE I, NO. I, 31 October 1972

PROPOSAL NO. 088

DOUGLAS M. PIRIE, DE324

SIGNIFICANT RESULTS

As of the time of this report, there have been no significant results from the California Coast Nearshore Processes Study.

TYPE OF DATA OBTAINED

Quality of Data	Temperature Air Water	Ht.	Waves T.	Dir.	Wind Speed	Dir.	Current Speed	Dir.	Comments
Good	X	X	X	X	X	X	X	X	Can gather data in Crescent City-Eureka area.
Two miles south of Crescent City									
Mr. Clemens California Division of Highways P.O. Box 3700 Eureka, California 95501 Ph: 707-442-5761 Ex: 282									
Freshwater Lagoon Beach									
Mr. Clemens California Division of Highways P.O. Box 3700 Eureka, California 95501 Ph: 707-442-5761 Ex: 282									
Humboldt Bay									
Mr. Clemens California Division of Highways P. O. Box 3700 Eureka, California 95501 Ph: 707-442-5761 Ex: 282									

TYPE OF DATA OBTAINED-Continued-

Quality of Data	Temperature Air Water	Ht. T.	Waves	Wind Speed Dir.	Current Speed Dir.	Comments
	X	X	X	X	X	
Humboldt Yacht Club North of Patricks Point California Division of Highways P.O. Box 3700 Eureka, California 95501 Ph: 707-442-5761 Ex: 282	Good	X	X	X	X	
Mac Kerricher State Park Mac Kerricher State Park Ranger (Ken Jones) P.O. Box 24100 Mac Kerricher Road Fort Bragg, California 95437 Ph: 707-964-3438	Fair	X	X	X	X	X
Salt Point State Park Salt Park Ranger (Jeff Jones) Salt Point State Park 25050 Coast Highway 1 Jenner, California 95450 Ph: 707-847-3221	Good	X	X	X	X	X

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature Air	Temperature Water	Ht.	T. Dir.	Waves	Wind Speed	Wind Dir.	Current Speed	Dir.	Comments
Very Good	X	X	X	X	X	X	X	X	X	Occasionally have access to boat.
Bolinas Bay Pat Cassey Bolinas Marine Station Bolinas, California 94924 Ph: 415-868-1771										
Bolinas Bay Professor Pat Wilde University of California 438 Hearst Mining Building Berkeley, California 94720 Ph: 415-642-6535			X	X	X	X	X	X	X	Can organize student to gather data.
Stinson Beach Ralph Yoshizuka Department of Navigation & Ocean Development 1416 Ninth Street, Room 1336-24 Sacramento, CA 95814 Ph: 916-445-8349	Fair		X		X	X	X	X	X	Can gather data in area from Stinson to Pidgeon Point.

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature Air Water	Ht. T.	Waves Dir.	Wind Speed	Dir.	Current Speed	Dir.	Comments
Fair		X X	X X	X X	X X	X X	X X	Can gather data in area from Stinson to Pescadero Point.
Stinson Beach Stinson State Park Rangers (Henry Richards) P.O. Box 56 Stinson Beach, California 94970 Ph: 415-868-1922								
Pescadero Point								
Ralph Yoshizuka Department of Navigation & Ocean Development 1416 Ninth Street, Room 1336-24 Sacramento, California 95814 Ph: 916-445-8349		X X	X X	X X	X X	X X	X X	Can gather data in area from Stinson to Pidgeon Point.
Pidgeon Point								
Ralph Yoshizuka Department of Navigation & Ocean Development 1416 Ninth Street, Room 1336-24 Sacramento, California 95814 Ph: 916-445-8349		X X	X X	X X	X X	X X	X X	Can gather data in area from Stinson to Pidgeon Point.

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature Air Water	Waves Ht. T.	Wind Dir.	Current Speed	Comments
Capitola Beach	Fair	X	X	X	Tregeiro in charge of several State Parks
Ryder Ray (or Chuck Famularo) City of Capitola Ph: 408-475-7300					
Seacliff Beach	Fair	X	X	X	
Anton Tregeiro State of California Park Rangers 120 - 9th Street Santa Cruz, California 95060 Ph: 408-475-2222		X	X	X	
Moss Landing & Monterey Bay	Very Good	X	X	X	Much data can be obtained when research ship is working in Monterey area.
Dr. Mary Silver Moss Landing Marine Lab Moss Landing, California 95039 Ph: 408-633-3304		X	X	X	Will gather data in Monterey area.
Salinas River Mouth	Very Good	X	X	X	
Robert H. Bourke (or Ed Thornton) Assistant Professor Naval Postgraduate School Monterey, California 93940 Ph: 408-646-2552					

TYPE OF DATA OBTAINED

-Contained-

Quality of Data	Temperature Air	Temperature Water	Waves Ht.	T. Dir.	Wind Speed	Wind Dir.	Current Speed	Comments
Very Good			X	X	X	X	X	Will gather data in Monterey Area.
								Sea temperature & possibly other oceanographic data can be obtained if research ship is in Monterey Area.

Holiday Inn Beach
in Monterey

Robert H. Bourke (or Ed Thornton)
Assistant Professor
Naval Postgraduate School
Monterey, California 93940
Ph: 408-646-2552

Monterey Bay

Dr. Gilmartin
Hopkins Marine Station
Pacific Grove, California 93950
Ph: 408-373-0464

Del Monte Beach, Monterey

J.M. Sturgeon
District Materials Engineer
Division of Highways
District 5, P.O. Box L
San Luis Obispo, California 93401
Ph: 805-543-6000

Wave gauge charts,
wind speed and
direction, and sea
surface temperature
available.

TYPE OF DATA OBTAINED
-Continued-

Quality of Data	Temperature Air Water	Ht. T.	Waves Dir.	Wind Speed Dir.	Current Speed Dir.	Comments
Fair	X	X	X	X	X	
Point Pinas (Pacific Grove)						
Mel Odemar California Fish & Game Ph: 213-435-7741 Ex: 211						
Carmel	Fair	X	X	X	X	
Mel Odemar California Fish & Game Ph: 213-435-7741 Ex: 211						
Mouth of Carmel River	Good	X	X	X	X	
Mr. Nighswonger Regional Water Quality Control Board 2238 Broad Street San Luis Obispo, California Ph: 805-543-5671						
Interested in Morro Bay and Carmel area						

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature Air Water	Ht. T.	Waves Dir.	Speed	Wind Dir.	Current Speed	Dir.	Comments
Big Sur	Fair	X	X X	X	X X	X	X	Can gather data at other locations.
J. M. Sturgeon District Materials Engineer Division of Highways District 5, P.O. Box L San Luis Obispo, California 93401 Ph: 805-543-6000								
Willow Springs	Fair	-	X	X	X X	X	X	
J. M. Sturgeon District Materials Engineer Division of Highways District 5, P. O. Box L San Luis Obispo, California 93401 Ph: 805-543-6000								
Morro Bay (Ataca Beach)	Fair	-	X	X X	X X	X	X	
Mr. Dunkel Morro Bay Museum of Natural History State Park Road Morro Bay, California 93442 Ph: 805-772-2694								
Morro Bay	Fair	X				X	X	Can gather data at other locations in area.
J. M. Sturgeon Division of Highways								

TYPE OF DATA OBTAINED

- Continued-

Quality of Data	Temperature Air Water	Waves Ht. T.	Wind Dir.	Speed Dir.	Current Speed Dir.	Comments
Morro Bay Power Plant Roy Hayes Pacific Gas & Electric Company 894 Monterey Street P.O. Box 592 San Luis Obispo, Calif. 93401 Ph: 805-772-2741					X	Average outlet and inlet temperatures at Morro Bay Power Plant circulating water available.
Morro Bay (Rock)	Good	X	X	X	X	
Mr. Nighswonger Regional Water Quality Control Board 2238 Broad Street San Luis Obispo, Calif. 93401 Ph: 805-543-5671					X	
Pismo Beach	Fair	X	X	X	X	Can gather data at other locations in area.

J. M. Sturgeon
District Material Engineer
Division of Highways
District 5, P.O. Box L
San Luis Obispo, Calif. 93401
Ph: 805-543-6000

TYPE OF DATA OBTAINED

- Continued -

Quality of Data	Temperature Air	Waves Ht.	Wind Speed	Current Speed	Comments
	Air	T. Dir.	Dir.	Dir.	
Good	X	X X	X	X	Can gather information in nearby area.
Oceano, California M.L. Vernon, Superintendent Department of Public Works Division of Highways P.O. Box 335 Santa Maria, California 93456					
El Capitan LEO Data Available			X X	X X	
Campus Point (North of Santa Barbara Harbor) T. Bailey Marine Science University of California Santa Barbara, California 93106			X X	X X	
Santa Barbara J.M. Sturgeon District Materials Engineer Division of Highways District 5, P.O. Box L. San Luis Obispo, Calif. 93401 Ph: 805-543-6000			X X	X X	Can gather data at other locations in area.

TYPE OF DATA OBTAINED
-Continued-

Quality of Data	Temperature Air Water	Ht.	Waves T. Dir.	Wind Speed Dir.	Current Speed Dir.	Comments
Stern's Wharf Santa Barbara Mr. Sturgeon California Division of Highways District 5, P.O. Box L San Luis Obispo, Calif. 93401 Ph: 805-543-6000	Fair	X	X X	X X	X X	Can gather data at other locations in area.
Capenteria LEO Data Available	Fair	X	X X	X	X	
Punta Gorda Al Palmer (or Oscar Stankov) California Division of Highways 550 South Vermont Avenue Los Angeles, Calif. 90005 Ph: 213-620-3280	Fair	X	X X	X	X	
Oxnard Al Palmer (or Oscar Stankov) Division of Highways 550 South Vermont Avenue Los Angeles, Calif. 90005 Ph: 213-620-3280	Fair	X	X X	X X	X	Can gather data in Los Angeles area.

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature Air Water	Ht.	Waves T.	Wind Dir.	Current Speed Dir.	Comments
Good	X	X	X	X	X	Sea surface temperature in area of power plant available.

Mandalay Power Plant

Ron Stracham, Room 360
 Southern California Edison
 P.O. Box 800
 Rosemead, California 91770
 Ph: 213-572-1874

Scattergood Power Plant
 Santa Monica Bay

Mike Nosanov
 Los Angeles Department
 of Water and Power
 111 North Hope Street, Rm. 1042
 Los Angeles, California 90054
 Ph: 213-481-5491

Haynes Power Plant

Mike Nosanov
 Los Angeles Department of
 Water & Power
 111 North Hope St. Room 1042
 Los Angeles, California 90054
 Ph: 213-481-5491

TYPE OF DATA OBTAINED
-Continued-

	Quality of Data	Temperature Air Water	Waves Ht. T.	Wind Speed Dir.	Current Speed Dir.	Comments
L.A. Harbor Breakwater	Fair	X	X	X	X	
Mel Odemar California Fish & Game Ph: 213-435-7741 Ex: 211						
Huntington				X		
LEO Data Available				X	X	
Dana Point				X	X	
					X	

Al Palmer (or Oscar Stankov)
Division of Highways
550 South Vermont Avenue
Los Angeles, California 90005
Ph: 312-620-3280

Dana Point Available

Dana Point
Dwight Schroeder
Boyle Engineering
P.O. Box 178
412 S. Lyon Street
Santa Ana, California 92702
Ph: 714-547-4471

Currently engaged in
study at Dana Point.
May have other coast
studies in future.

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature Air Water	Ht.	Waves T.	Dir.	Wind Speed	Dir.	Current Speed	Dir.	Comments
San Clemente									
LEO Data Available									
Carlsbad	X		X	X	X	X	X	X	
Fred Warn Department of Materials Laboratory California Division of Highways 4075 Taylor Street San Diego, California 92110 Ph: 714-297-4501 Ex: 397									
Central Point Loma	Good		X	X	X	X	X	X	
Ron McPeak Kelco Company 2145 East Belt Street San Diego, California 92113 Ph: 714-2-32-1011									
Silver Strand									
LEO Data Available									

TYPE OF DATA OBTAINED

-Continued-

Quality of Data	Temperature Air Water	Waves Ht.	T. Dir.	Wind Speed	Dir.	Current Speed	Dir.	Comments
Incina Power Plant, Carlsbad J.F. Dietz San Diego Gas & Electric Co. P.O. Box 1831 San Diego, California 92112								Temperature readings of cooling water system are available.
Station B Power Plant, San Diego Bay J.F. Dietz San Diego Gas & Electric Co. P.O. Box 1831 San Diego, California 92112								Temperature readings of cooling water system are available
Silver Gate Power Station San Diego Bay J.F. Dietz San Diego Gas & Electric Co. P.O. Box 1831 San Diego, California 92112								Temperature readings of cooling water system are available

South Bay Power Plant
San Diego

J.F. Dietz
San Diego Gas & Electric Co.
P.O. Box 1831
San Diego, California 92112

Temperature readings
of cooling water
system are available

J.F. Dietz
San Diego Gas & Electric Co.
P.O. Box 1831
San Diego, California 92112

(i)

ERTS IMAGE DESCRIPTOR FORM

(See Instructions on Back)

DATE 10-27-72

NDPF USE ONLY
 D _____
 N _____
 ID _____

PRINCIPAL INVESTIGATOR Douglas T. PirieGSFC D 324ORGANIZATION U. S. Army Corps of Engineers

PRODUCT ID (INCLUDE BAND AND PRODUCT)	FREQUENTLY USED DESCRIPTORS*			DESCRIPTORS
	Sediment	Kelp	Clouds	
1-019-18062 M				
1-019-18064 M				
1-020-18115 M				
1-010-18121 M			X	
1-020-18124 M			X	
1-036-18010 M	X		X	Los Angeles
1-036-18012 M			X	
1-038-18020 M	X		X	
1-054-18010 M			X	
1-055-18064 4			X	Channel Islands
1-055-18064 6			X	Channel Islands
1-055-18064 7			X	Channel Islands
1-055-18071 4			X	
1-055-18071 5			X	
1-055-18071 6			X	
1-056-18120 4			X	
1-056-18120 5			X	
1-056-18120 6			X	
1-056-18124 M			X	
1-057-18170 M				
1-057-18172 M			X	Monterey
1-057-18175 M			X	

*FOR DESCRIPTORS WHICH WILL OCCUR FREQUENTLY, WRITE THE DESCRIPTOR TERMS IN THESE COLUMN HEADING SPACES NOW AND USE A CHECK (✓) MARK IN THE APPROPRIATE PRODUCT ID LINES. (FOR OTHER DESCRIPTORS, WRITE THE TERM UNDER THE DESCRIPTORS COLUMN).

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